CLAIMS

1. A graphical user interface that displays results of a feature extraction process carried out on data collected from a molecular array, the graphical user interface comprising:

a molecular array image display component that displays an image of the molecular array; and

a feature-extraction-results rendering component that displays feature extraction results concurrently with, and correlated with, display of the molecular array image, the feature extraction results including results of statistical analysis, by the feature extraction process, of data collected from the molecular array and including one or more metrics that indicate quality of the signals extracted from the features of the molecular array.

2. The graphical user interface of claim 1 wherein the feature extraction results include positions of features of the molecular array within the image of the molecular array.

3. The graphical user interface of claim 1 wherein the feature extraction results include results of statistical analysis of signals extracted from background regions surrounding features.

4. The graphical user interface of claim 1 wherein the feature extraction results include one or more metrics that indicate quality of the signals extracted from background regions surrounding features of the molecular array.

5. The graphical user interface of claim 1 wherein the feature extraction results include numerical, textual, or numerical and textual information specific to each feature, including extracted signal intensities and positions within a coordinate system determined for the molecular array.

6. The graphical user interface of claim 1 wherein the graphical user interface optionally displays feature extraction results only for outlier features and feature backgrounds.

7. The graphical user interface of claim 1 wherein the graphical user interface displays numerical, textual, or numerical and textual information specific to a feature in a tool tip in response to input identifying a particular feature.

8. The graphical user interface of claim 7 wherein the input constitutes positioning of a cursor over the feature in the displayed image of the molecular array.

9. The graphical user interface of claim 1 wherein results of the feature extraction process are displayed as graphical objects superimposed on the displayed image of the molecular array.

10. The graphical user interface of claim 9 wherein the displayed graphical objects include:

a first type of indication indicating a statistically valid feature;

a second type of indication indicating a statistically invalid feature;

a third type of indication indicating a statistically valid feature background;

a fourth type of indication indicating a statistically invalid feature background; and

a fifth type of indication indicating the position of a feature in the displayed image of the molecular array.

11. The graphical user interface of claim 10 wherein the first, second, third, and fourth types of indications are planar figures selected from among closed planar figures that include:

circles;

squares;

polygons;

ellipses;

rectangles; and

irregular shaped closed figures.

12. The graphical user interface of claim 10 wherein the fifth type of indication is a positioning figure selected from among positioning figures including:

crosses;

points; and

arrows.

13. The graphical user interface of claim 10 wherein the first and third types of indications that indicate a statistically valid feature and a statistically valid feature background, respectively, have a common color distinct from the colors of the second, fourth, and fifth types of features.

14. The graphical user interface of claim 10 wherein the second and fourth types of indications that indicate a statistically invalid feature and a statistically invalid feature background, respectively, have a common color distinct from the colors of the first, second, and fifth types of features.

15. A method for visually displaying results of a feature extraction process carried out on data collected from a molecular array, the method comprising:

displaying an image of a molecular array; and

superimposing graphical objects over positions of features on the displayed image of the molecular array, a displayed graphical object representing a result of the feature extraction process for the feature over which the displayed graphical object is superimposed on the displayed image of the molecular array.

16. The method of claim 15 further including:

upon receiving an input indication of a feature, displaying a tool tip including an alphanumeric representation of information related to the feature, including results from the feature extraction process.

17. The method of claim 16 wherein the input indication is positioning of a graphical pointer over the position of the feature in the displayed image of the molecular array.

18. The method of claim 15 further including:

upon receiving an option selection indication, displaying graphical objects superimposed only over statistical outlier features and feature backgrounds.

19. The method of claim 15 wherein displayed graphical objects include:

a first type of indication indicating a statistically valid feature;

a second type of indication indicating a statistically invalid feature;

a third type of indication indicating a statistically valid feature background;

a fourth type of indication indicating a statistically invalid feature background; and

a fifth type of indication indicating the position of a feature in the displayed image of the molecular array.

20. The method of claim 19 wherein the first, second, third, and fourth types of indications are planar figures selected from among closed planar figures that include:

circles;

squares;

polygons;

ellipses;

rectangles; and

irregular shaped closed figures.

21. The method of claim 19 wherein the fifth type of indication is a positioning figure selected from among positioning figures including:

crosses;

points; and

arrows.

22. The method of claim 19 wherein the first and third types of indications that indicate a statistically valid feature and a statistically valid feature background, respectively, have a common color distinct from the colors of the second, fourth, and fifth types of features.

23. The method of claim 19 wherein the second and fourth types of indications that indicate a statistically invalid feature and a statistically invalid feature background, respectively, have a common color distinct from the colors of the first, second, and fifth types of features.

24. A method comprising reading a sample exposed array, visually displaying results using a method according to claim 15, and further processing the results from reading based on the visually displayed results.

25. A method comprising forwarding data representing a result obtained by the method of claim 24.

26. A method according to claim 25 wherein the data is communicated to a remote location.